



THE KNOWLEDGE HOUSE

# LEARNING THROUGH CO-DESIGN

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Learning through Co-design: How Students and Educators Created a Digital Solution to Program Challenges



## OUTLINE

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About The Knowledge House

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How Can Others Replicate This Process?

# ABOUT THE KNOWLEDGE HOUSE

Founded in 2014, TKH is a nonprofit organization that empowers and sustains a talent pipeline of technologists, entrepreneurs, and digital leaders who will uplift their communities out of poverty.

Our program offerings are...



The Leaderboard is used in TKH programs to track student performance and engagement, as well as to develop technical and career skills through social and emotional learning activities.

# PROBLEM STATEMENT

Why is this important?

Have you ever had a problem with student retention, student engagement, or keeping students motivated? The Knowledge House has been there!

In 2016, TKH's young adult programs had student engagement and persistence challenges.

We spent a lot of time tracking data and trying to figure out what we could do to keep students engaged, when it hit us:

*Why don't we just ask them?*

So we did... Their response?

**A digital tool that can be accessed at any time.**

## The solution?

Use design thinking to build a digital tool

## The method?

Including program participants in the process of building.

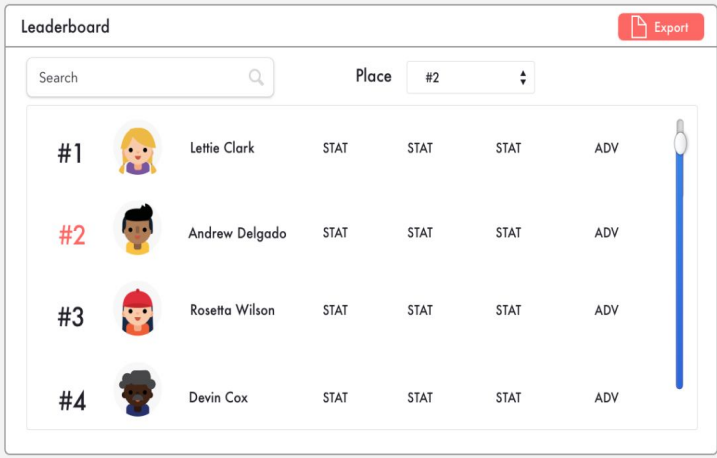
## Why should you try it?

- ✓ It's user-focused and user-informed
- ✓ It builds closer relationships between program participants and organization values
- ✓ It gives you an opportunity to empower youth

# PROJECT OVERVIEW

## The Knowledge House's Leaderboard

The Leaderboard is a gamified key performance tracker that collects and organizes points assigned to any skills covered within a curriculum. It provides robust data on students' engagement and performance, while acting as a form of skills credentialing and rewards system.



Rank	Avatar	Name	STAT	STAT	STAT	ADV
#1		Lettie Clark	STAT	STAT	STAT	ADV
#2		Andrew Delgado	STAT	STAT	STAT	ADV
#3		Rosetta Wilson	STAT	STAT	STAT	ADV
#4		Devin Cox	STAT	STAT	STAT	ADV

## Students can...

+1

earn "points" in lieu of letter grades

-1

lose points for poor attendance and missed work



view their classwide ranking at all times



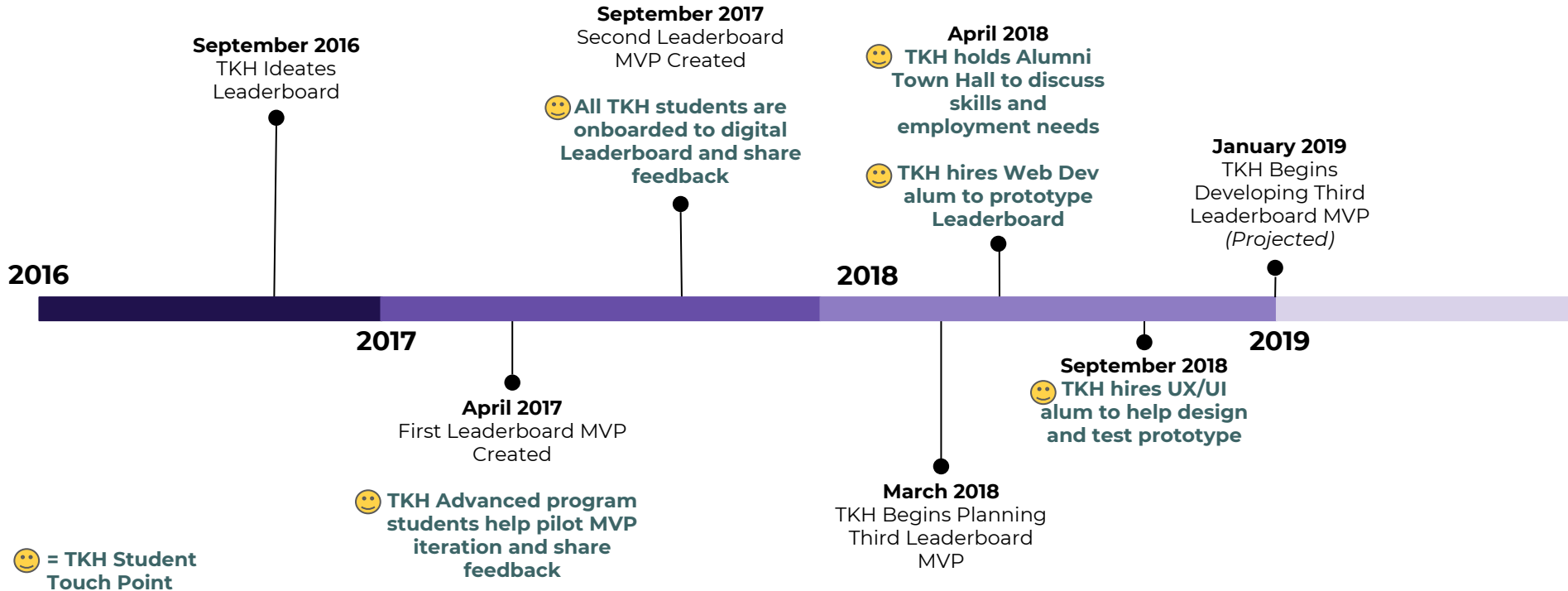
access program expectations and self-monitor



win prizes and incentives for top rankings

# LEADERBOARD DESIGN PHASES

Here's a timeline of the leaderboard design phases, as well as how students contributed throughout the process:



# MVP DESIGN PHASES

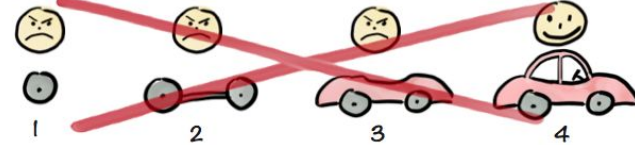
## Minimum Viable Product

A version of a new product which allows a team to collect the maximum amount of validated learning about users with the least effort.

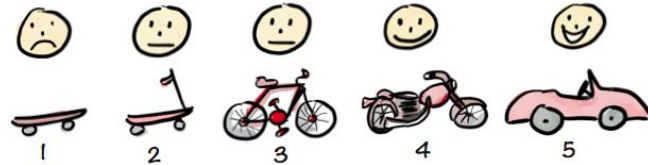
“If you are not embarrassed by the first version of your product, you’ve launched too late.”

Reid Hoffman  
*Founder, LinkedIn*

Not like this....



Like this!



TKH Leaderboard



# LEADERBOARD MVP 1

**User:** Students, 16-30 years old

## Actions:

1. View class-wide ranking
2. View individual progress
3. Track assignments and attendance data for entire program

## Goal:

- Transparently self-monitor program progress and earn prizes for high performance

	A	B	C	D	E	F	G
1			Leaderboard Overview (Overall)	Leaderboard Overview (Tech)	Leaderboard Overview (Career)	Leaderboard Overview (Extra Credit)	Leaderboard Overview (Attendance)
2	First Name	Last Name	Total Points	Total Points	Total Points	Total Points	Total Points
3	Name 1	Name 1	1503.5	1032	428	51.5	-8
4	Name 2	Name 2	1457	1050.5	397.5	18	-9
5	Name 3	Name 3	1423.4	1020.9	407	0.5	-5
6	Name 4	Name 4	1418.25	991.25	389	38	0
7	Name 5	Name 5	1396.9	997.9	382.5	20.5	-4
8	Name 6	Name 6	1394	988	401	5	0
9	Name 7	Name 7	1300.5	915.5	395	15	-25
10	Name 8	Name 8	1282.25	940.75	386.5	0	-45
11	Name 9	Name 9	1266.75	954.75	352	22	-62
12	Name 10	Name 10	1263.9	852.4	350	96.5	-35
13	Name 11	Name 11	1223.5	878.5	392.5	8.5	-56
14	Name 12	Name 12	1196.75	939.25	351	5.5	-99
15	Name 13	Name 13	1153	888	295.5	16.5	-47
16	Name 14	Name 14	1149.75	841.75	347.5	31.5	-71
17	Name 15	Name 15	1141.4	932.9	223	17.5	-32
18	Name 16	Name 16	1126	845	339	10	-68
19	Name 17	Name 17	987.15	766.15	259	0	-38
20	Name 18	Name 18	943.5	693.75	314.25	31.5	-96
21	Name 19	Name 19	852	588	313.5	0.5	-50
22	Name 20	Name 20	543	502	450	0	-109
23	Name 21	Name 21	510.5	474	145	3.5	-109
24	Name 22	Name 22	795	606	257.5	22.5	-64

*A snapshot of the Class Leaderboard view, modeled on Google Sheets.*



# LEADERBOARD MVP 1 | FEATURES & HIGHLIGHTS

## STUDENT-INFORMED DESIGN APPROACH

- 😊 TKH's Advanced program students help pilot MVP iteration and share feedback

## FEATURES

- ★ Master spreadsheet with class-wide leaderboard view, organized by skills type and class rank
- ★ Individual student spreadsheets listing all program deliverables
- ★ Student dashboard with assignment points total and links to digital assets: LinkedIn Profile, Digital Portfolio, GitHub

## HIGHLIGHTS

- ✓ Pilot students showed significant increase in SEL skills, including self-advocacy and academic behaviors
- ✓ TKH's Leaderboard recognized as a promising practice for driving student SEL growth by Student Success Network

# LEADERBOARD MVP 1 | PAINS & GAINS

## PAINS:

- Time-consuming
- Tedious
- Offline, cannot be accessed 24/7

## OPPORTUNITIES:

- Automate inputting and sorting of data
- Use web-based platform instead of spreadsheet

## GAINS:

- Faster leaderboard updates
- More data security
- Easier access

## TAKEAWAYS:

- First MVP doesn't have to be perfect, it just has to work!
-

# LEADERBOARD MVP 2

**User:** Students, 16-30 years old

## Actions:

1. View class-wide ranking and data average
2. View individual progress
3. Track assignments and attendance for entire program
4. Submit assignments and extra credit

## Goal:

- Transparently self-monitor program performance and access course materials

24/7

First name	Last name	Username	Assessments	Assignments	Assignments CTD	Tests	Tests CTD	% Attendances
Joe	Carrano	jcarrano	0.0	0%	0%	0.00%	0%	0%
Cris	Mercado	cmercado	0.0	0%	0%	0.00%	0%	0%
Stephary	Garcia	sgarcia	0.0	0%	0%	0.00%	0%	0%
Tremaine	Davis	tdavis	0.0	0%	0%	0.00%	0%	0%

Showing 1 to 4 of 4 entries

Previous 1 Next

DATA AVERAGE

- Assessments Average : 0.00 / 70.0
- Assignments Average : 0.00%
- Assignments Average CTD : 0.00%
- Tests Average : 0.00%
- Tests Average CTD : 0.00%
- Attendances Average : 0.00%

*A snapshot of the Class Leaderboard view, modeled on SugarCRM.*

# LEADERBOARD MVP 2 | FEATURES & HIGHLIGHTS

## STUDENT-INFORMED DESIGN APPROACH

- 😊 All TKH students are onboarded to digital Leaderboard and share feedback

## FEATURES

- ★ Fully integrated point system for course material
- ★ Leaderboard interface connected to digital learning platform and learning management system

## HIGHLIGHTS

- ✓ Increased attendance and completion helped us secure funding to improve tool
- ✓ Noticeable increase in female participants' performance and engagement
- ✓ Advanced program alumni had strong attendance and placement rates

# LEADERBOARD MVP 2 | PAINS & GAINS

## PAINS:

- Not user-friendly
- Third-party platform and dev team
- Limited functionality and access

## GAINS:

- Increased student engagement with digital tool
- Live leaderboard updates
- Better interface
- Freedom of customization

## OPPORTUNITIES:

- Simplify leaderboard interface
- Automate class-wide student sorting
- Display total points with complete assignments list
- Design points system based on content, not on 100% GPA scale

## TAKEAWAYS:

- Use a digital tool that doesn't limit your features' functions
  - Product developers are less likely to create a user-friendly MVP if they don't know the users
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# LEADERBOARD MVP 3

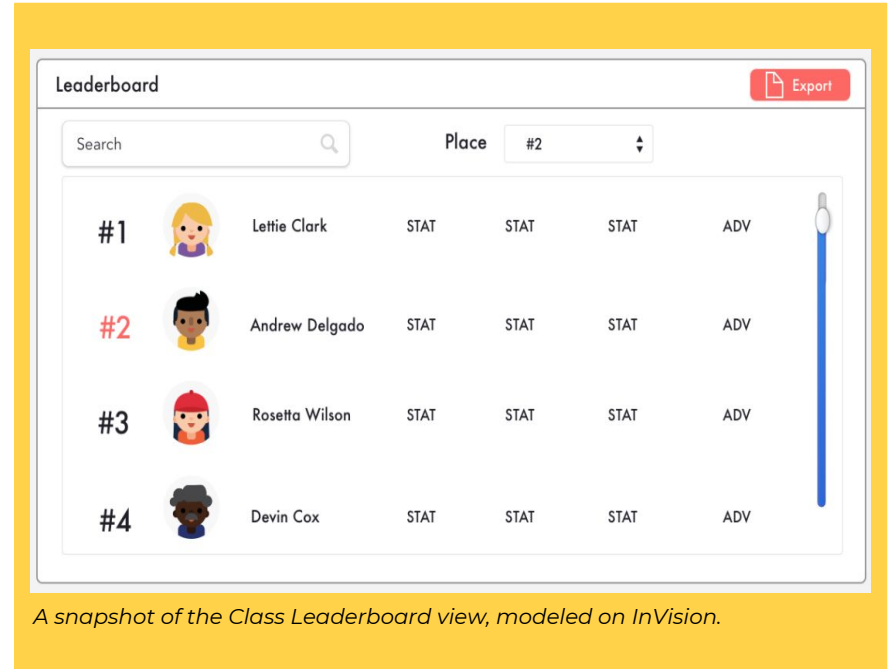
**User:** Students, 16-30 years old

**Actions:**

1. View class-wide ranking and data average
2. View individual progress
3. Track assignments and attendance for entire program
4. Submit assignments and extra credit
5. Earn digital badges for skills

**Goal:**

- Transparently self-monitor program performance, access course materials 24/7, and become career-ready



# LEADERBOARD MVP 3 | FEATURES & HIGHLIGHTS

## STUDENT-INFORMED DESIGN APPROACH

- 😊 TKH holds Alumni Town Hall to discuss skills and employment needs
- 😊 TKH hires Web Development alum to prototype Leaderboard
- 😊 TKH hires UX/UI alum to help design and test prototype

## FEATURES

- ★ Leaderboard interface connected to digital learning platform, learning management system, and admin reporting tool
- ★ Students receive points toward digital skills badges
- ★ Individual student profile serves as a resume that can be shared with potential employers

## HIGHLIGHTS

- ✓ TKH received \$25K from Capital One to improve Leaderboard
- ✓ TKH alumni hired to design, user test, and prototype MVP 3
- ✓ Leaderboard will be integrated into TKH's first proprietary software, a Unified Digital Learning Platform (UDLP)

# LEADERBOARD MVP 3 | QUESTIONS TO CONSIDER

How will we **scale** leaderboard?

How do we minimize **scope creep**?

How do we keep all collected **data** secure?

What gamification features can be enhanced using **visual design**?

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# HOW CAN OTHER ORGS REPLICATE THIS PROCESS?

## Develop Your Own Change Idea!

1. Clarify and refine your organizational goal/aim
2. Identify primary drivers
3. Identify secondary drivers
4. Generate a change idea

## Get Your Students Involved!

- Collect user feedback
- Survey their interests and needs, use it in your design
- Hire them to help design/build the digital tool

## Other Tips:

- Leverage outside resources and funding
- Consider using a lean / continuous improvement methodology
- Involve student-facing staff in the design process
- Do your research

When coming up with a change idea, consider the following questions:

- What is your goal?
  - Who is your user?
  - Where did you get the idea from?
  - What is the change?
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THE KNOWLEDGE HOUSE

THANK YOU!

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